Supporting Statement B for

Web-based Skills Training for SBIRT (Screening Brief Intervention and Referral to Treatment), NIDA

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B.1 Respondent Universe and Sampling Methods

Participants will be recruited from the population of primary care providers in Washington, Oregon, Idaho and Alaska who have given their email addresses to the MMS medical marketing service, to be contacted regarding information about topics they have selected. For this study, primary care providers were contacted if they expressed an interest in receiving information about CME offerings. This is a self-selected sample.

State	**Number of Primary Care MDs in MMS database**
Alaska	334
Idaho	598
Oregon	1992
Washington	3314
Total	**6238**

State	**Number of Primary Care Nurse Practitioners in MMS database**
Alaska	130
Idaho	137
Oregon	508
Washington	837
Total	**1612**

State	**Number of Primary Care Physician Assistants in MMS database**
Alaska	52
Idaho	67
Oregon	126
Washington	182
Total	**427**

TARGETED/PLANNED ENROLLMENT: 94 PCPs, PAs, NPs in Pacific Northwest (Alaska, Idaho, Oregon, Washington)			
Ethnic Category	**Sex/Gender**		
	Females	**Males**	**Total**
Hispanic or Latino	5	5	10
Not Hispanic or Latino	42	42	84
Ethnic Category Total of All Subjects*	47	47	94

Racial Categories			
American Indian/Alaska Native	4	3	7
Asian	4	3	7
Native Hawaiian or Other Pacific Islander	1	1	2
Black or African American	2	2	4
White	36	38	74
Racial Categories: Total of All Subjects *	47	47	94

*The "Ethnic Category Total of All Subjects" must be equal to the "Racial Categories Total of All Subjects." Totals based on 2010 census combined population data of Alaska, Idaho, Oregon and Washington. http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_NSRD_GCTPL1.US01PR&prodType=table

B.2 Procedures for the Collection of Information

Sampling: A probability sample will not be used for this research. Probability sampling is appropriate when a random sample of the population is needed (e.g., for estimating the prevalence of a disorder in the population). The present research only pertains to primary care providers who have interest and need for this type of online training, thus random sampling would be inappropriate. We will use a sample of self-selected providers who respond to an email describing the training and the research involved. This type of volunteer self-selected sample is common practice in educational effectiveness research.

Stratification: The sample will be stratified by profession (MD, NP or PA). That is, it is necessary to ensure that there are equal numbers of respondents from each profession in the experimental and control groups. Participants will be asked their profession during screening. The three professions will be independently randomized to the intervention or control group. Randomization will be determined by computer algorithm based on a random numbers table.

Information Collection: There are two types of information collected in this research 1)self-report answers to questionnaires and tests and 2) digitally taped "clinical" interviews with standardized

patients (SPs). The self-report measures will be collected online. Participants will log into the study website using a log-in and password they chose when registering for the study. They will read the questions and answer by clicking the mouse or typing into a text box. They may quit and save and resume participation at another time if they chose. Participants will be prompted to complete the assessments by an email from the study staff.

Standardized patient interviews (pseudo-clinical interviews with a trained actor portraying a patient) are standard procedure in medical and nursing training programs and will be familiar to study participants. Participants will schedule the interview at their convenience and the SP actor will call them at a number they provide. Participants will receive information about the fictional patient by email, including substance use screening results, medical history and the goals of the interview. The interview is unstructured and directed by the participant. Interviews will be digitally recorded and stored on Talaria's secure server. Individuals who code the interviews for compliance with the clinical procedures taught in the training programs (both experimental and control) will be blinded with regard to all details about the participant and will not participate in other elements of the study. Coders will be trained and supervised by Dr. John Baer at the University of Washington and both coders will code a sub-sample of interviews in order to calculate reliability.

B.3 Methods to Maximize Response Rates and Deal with Non-Response

This is not a survey study, so there is no response rate to calculate. However, we have described our sample size and power analysis below.

Sample Size Considerations

Estimated practical effect size. In a previous training study which compared two types of training for tobacco cessation in a group of medical students and other providers-in-training (Carpenter, Cohn, Glynn, & Stoner, 2008), we used a computerized standardized patient assessment as our primary outcome variable and a reading materials control condition similar to the one proposed here. In that study, we found a between groups effect size of d = .829, a large effect size. For the current study, participants will be practicing professionals who may have pre-existing knowledge of SBIRT skills and addiction issues.

Therefore, we have chosen to power our study to be able to detect a medium effect size of the SBIRT training on the outcome measures.

Sample size calculation. We conducted a power analysis using G*Power 3 software (Faul, Erdfelder, Lang, & Buchner, 2007). For ANCOVA and MANCOVA designs, Cohen's f2 is the appropriate index of effect size. According to standard conventions, values of f2 = .02, .15, and .35 represent small, medium, and large effects (respectively). As we are predicting a medium effect, our power analyses indicated that a sample size of **74** with both pretest and posttest data represents a reasonable compromise between sample size and sensitivity considerations. This number of participants yields power of .80 to detect an effect size of f2 = .15, alpha = .0167 (including the Bonferroni correction for 3 tests). This sample size also gives us power of .80, alpha = .05, to detect an effect size of d = .65 (medium to large) for the independent groups t-test needed to test hypothesis 2. Assuming a loss-to-follow-up of 30%, this gives a target enrollment of **94** participants.

Methods to minimize attrition.

Incentive and CME credits. Participants are offered an honorarium that is competitive with a primary care provider's salary rate, in addition to CME credits. Participants who are interested in CME and the subject matter will benefit both professional and financially from their time spent responding to the study.

Convenience. All questionnaires are filled out online. The standardized patient interview is phone-based and scheduled at the participant's convenience.

Email communication. During the follow-up period, emails will be sent to keep in touch with the participants.

B.4 Test of Procedures or Methods to be Undertaken

Testing will be conducted with Talaria employees to determine the functionality of the study website.

B.5 Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

Dr. Susan Stoner, Ph.D., a research scientist at Talaria with expertise in statistical analysis and data analytic methodology was consulted on the statistical aspects of the study design. Dr. Stoner will be analyzing the study data.